

THE PHYSICAL EDUCATION
OF THE BLIND

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The Physical Education of the Blind.*

One of the best instructors we have ever had says, "In order to be a successful teacher of the blind I consider it very essential to follow Rousseau's advice: 'Study your pupils more, for I tell you you do not understand them.'"

Now it is common to think of the blind as a class; to describe them as awkward, slothful, timid; or to speak of them as deep thinkers—does not tradition say that Demodocus put out his eyes in order to think better?—or to imagine them naturally pious. True, many of them are all this, yet others are by nature graceful, some are energetic, some bold and fearless; while many if regarded as philosophers are rather shallow; and quite a few like to play cards and football on Sunday. The blind are not even all alike in their blindness; for in such a school as ours, made up of young people, from one-half to two-thirds of the pupils are able to see light, and one-half of these see well enough to keep from running into objects. This sight is not always of advantage to them: to those whose eyes are unequal to the demand made upon them it is a hindrance; for the energy which might effect something worth while, if directed to hearing and doing, runs to waste in trying to see. This is one of several kinds of eye strain of which we hear so much. Many of our pupils suffer from this nervous strain; and usually those who do not see at all are stronger scholars than those who see a little.

For purposes of getting about, however, a little eyesight is of tremendous advantage; so well is this recognized by the pupils themselves that in all their active competitive games those who can see are invariably chosen first. It is true that blindness is a defect which is more patent and more appealing than almost any other. A person may be

* A paper read by E. E. Allen before the Philadelphia Physical Education Society as introductory to a gymnasium demonstration by pupils of the Pennsylvania Institution for the Instruction of the Blind, at the Institution, Overbrook, April 7, 1906.

both blind and feeble-minded or blind and crippled, but the census returns him as merely blind. In the public mind the lack of sight does naturally create a class; nevertheless, the blind should not be lumped together but should be considered rather as made up of individuals who differ among themselves quite as much if not more than other people.

It is a fair generalization to assert that the blind, in so far as they are a class, are not the same as they would have been had they individually had sight. If sight in its direct action is more important for mental growth than hearing, what can we say of its importance for physical growth? We have charted the curve for our boys and girls in weight, height, and lung capacity and found it decidedly below Dr. Sargent's normal curve. As the lung capacity indicates the vitality, the blind are inferior to others in power. And, indeed, we might reason that it should be so. For even if they start life with average vital energy they develop less than is required for proper growth, and upon occasion, as when moving about over more or less unfamiliar ground, expend a great deal more strength than they gain by the exercise. Compare, for example, a seeing and a blind man walking the street. He with sight can be reading a book and yet never run into anything, while he who is blind is obliged to keep constantly on the alert lest he hurt himself or some one else; hearing is for this purpose so much inferior to sight as to be in another category. For an unattended blind man to take a long walk is not recreative, but positively exhausting. This is why the blind choose the safe excursion of a rocking chair. There results a disinclination for real exercise and this "disinclination for exercise unless combated at the outset grows stronger by indulgence."

When our pupils come to us the majority are way below par; perhaps four years back of what they ought to be. Out of sixteen children entering our kindergarten since September, twelve could neither dress nor care for themselves, and they averaged eight and a quarter years of age. Of course, the parents are responsible for this; yet in a sense

they are not blameworthy, because they probably did the best they could. I cannot overemphasize the importance of placing blind children early under proper care and guidance. A blind child at home is the exception: nothing is required of it; such energy as it has usually runs to waste in the form of rolling the head, shaking the hands, and other habit movements that are often hard to break up. At school with others like itself, it is no longer petted and waited on, but is stirred up by the attendants and by wholesome competition with its mates. Then and then only does it have a chance to neglect the rocking chair and undertake excursions that get somewhere.

Probably you will readily admit that physical education precedes and is fundamental to mental education. Certainly you can find no better corroboration of this truism than in such a school as this. It has been the experience of instructors of the blind that it is only by building up the bodies of their pupils that they can get from them the maximum mental and manual attainment; and those schools which pay the most attention to physical development show the largest results in the after careers of their pupils. Here at Overbrook the lay-out of the grounds, as well as the general plans of the buildings, was dictated by the physical needs of the pupils. Everywhere you will observe straight lines and rectangles: where this is so the blind move about freest, and we must cultivate the utmost freedom. But how can we encourage and even create spontaneity? Look at our play-grounds. You will find no dearth of trees there; and yet you must not suppose that their distribution in avenues is regulated solely by the demands of the style of our architecture. They are planted as they are in order to divide the different play-grounds one from another. The totally blind never collide with the trees because we have run narrow walks of brick just in front of every row. These walks enclose the play-grounds on all sides, and the children know that whereas they may run hard and fast within their plots, so soon as their feet touch the hard walk there is danger ahead. Unless the blind can run with abandon they

are not going to run at all. When you go into the gymnasium you will see the wooden floor framed in by a cement border seven feet wide—or just as wide as the running track above it. The object of this cement, like the brick walks just referred to, is protective. When the foot or the roller skate strikes it the feel is different and the sound is different: the low running track overhead still further modifies the sound: the blind always make large use of resonance. If it occurs to any of you to question the desirability of such nice adaptation on the ground that our pupils will not find the world laid out so, let me answer that what we are seeking is to secure for them a large amount of spontaneous movement while they are still young and growing. Youth is the golden time for development; and just as the blind become before they reach maturity so will they remain. But it is not alone symmetrical growth that we are after; we want to implant fearlessness, courage, and a determination to fight the serious battle of life; and for them to do this we know that lots of energy is a prerequisite. Energy and health if they can be yoked together during youth draw achievement and success in manhood and womanhood.

One might suppose that our seven and one-half acres of play-ground within the walls would be sufficient for 192 pupils. They are not, however, and we are now developing a ten acre field into orchard, grove, and out-door gymnasium. Other boys and girls may possibly romp and play too much; but blind boys and girls cannot.

And yet here as in other boarding schools those who most need physical exercise seek it least, and *vice versa*. We, therefore, require certain exercise from all. Nothing but illness excuses any one from the half-hour morning walk, after breakfast, under supervision of the house-mothers. The weather makes no difference; for if it rains or snows our great covered cloisters afford ample protection. Then nothing but our own attending physician's approval is accepted in lieu of regular attendance upon the gymnasium. Usually twice a week the younger pupils are taken on afternoon walks into the woods and fields. Our

object is to force each boy and girl to exercise himself physically every day.

The gymnasium work being rather "educational" than "corrective," is done in classes: we prefer it so. The classes are not large, rarely over twenty-five, and are graded according to their school divisions, namely intellectually. As a rule this is not a faulty grouping—seniors together, juniors together, and the ungraded together; for we always have some unclassifiable pupils, mostly new ones, but a few backward. We aim to assemble each group three times a week, forty minutes at a time, for work and play. Requiring, as we do, dressing for the gymnasium and showering afterwards we can demand some very vigorous exercise. The plan is to begin with the free exercises and floor drills and to conclude with apparatus work or games—business first and pleasure afterwards. I said above that we preferred to have class work; this is because working together teaches the lessons of co-operation, of individual excellence, and, in the case of the games, brings the tonic of mild excitement and the striving to do one's best for one's side. Competitive games are directly helpful in the preparation for the sterner competition of life. As to the apparatus work—and you will observe later that there is no fixed apparatus except back of the cement stop—this is conducted by several squads of half a dozen members, each one under a leader who is usually selected because he is the best performer, and so can show the others. Our boys do but few real feats; but then what they do accomplish are often such for them. I would not imply by this statement that they cannot perform feats of finish and strength, for they can; but to achieve this requires in them vastly more hard work and guiding direction than in youth who have been from childhood up rendering their muscles and joints supple in the mere imitation of others. The blind can only successfully imitate what others do by passing their hands over them while in action—just as those blind must do who would become adepts in the practice of massage. Of course, after they have once learned to do an exercise correctly their

conception of it has been clarified and ever afterward the leader's command suggests the action to be carried out. Those who have once seen, after they become accustomed to the ways of blindness, appear in everything more like others than the congenitally sightless ever do. In gymnasium they are our best pupils, for they have a clearer and more accurate conception of what is required, and a mental picture of the doing of it. The hearing can never convey more than an approximate visual image. Apply the case to yourself: any one of you if blindfolded could do the squad or apparatus work you are accustomed to, or could even take up new exercises, better than any one who had always been without sight.

Much the same care and training is called for in the floor work. Not seldom years are needed to lick a whole class into shape; a body has to be rather clever, or to be able to see some, to join an advanced class and not spoil its ensemble working. We have pupils who even after long, hard work remain awkward and gauche, and invariably get out of step or time. If a blind girl begins wrong she will keep so and end wrong unless some one rights her; she can only right herself when a pause or change in the rhythm or count enables her to do so. Unlike the girl whose mirror is her neighbor, the blind girl knows no mirror. Hence, the commando movement of the Swedish exercises is for her difficult, but for that very reason excellent, because educative to the attention. A little of it goes a great ways, however; and we make use of it with moderation. All such class exercises may become straining to the mind: some of the conscientious pupils hold themselves rigid and so defeat a part of the object of having the movements. Others again dread them, particularly such demonstrations as we are to have to-day, simply because of a fear that they will do ill and so vitiate the effect. May I beg you to bear this suggestion in mind?

A class enters the gymnasium in single or double file; but "covering," as we call it, or touching the one in front in order to maintain position. The leader of a line is gen-

erally some one with partial sight; elsewhere in the line the sight is distributed as happens. "Halt!" "right face"—"count off by twos"—"even numbers one step to the right;" "odd numbers one step to the left"—"open spaces!" Now the teacher has his class distributed for floor work. There is no need here for big round-headed tacks in the floor. Orders in the reverse of the above bring the class back into file again. This is the same in any gymnasium. Again let me emphasize the statement that in everything the blind pupil must keep his wits about him; for he knows that on his performance hangs possibly the success of the whole.

The physical training of the blind is as arduous as it is necessary. Nothing we teach is more difficult unless it be another form of the same thing, the physical expression as taught by the instructor of declamation. Blind pupils can scarcely be made to gesture; they feel the impulse to do so but are afraid they will gesture awkwardly. And they dread doing things so. They want to be in all things and at all times like other folks and they consider that in the matter of physical expression of any kind they are at a disadvantage. So they are; and yet to let them follow their own inclinations would be wrong.

They must be made to forget themselves—to get out of themselves—games provide the very best means to this end. In many of these they shout a good deal; more than others do, I think, for it helps them know their neighbors and find their places. For example, in the "cock fight" those on one side cry ee—ee—ee, while those on the other cry i—i—i. Adaptations of one kind or another render possible the zestful playing of many games indoor and out. Baseball and football, as you understand them, cannot be played by really blind boys; and, of course, any such thing as lawn tennis is wholly out of the question. Bells in balls sound only when the balls roll or are struck; in mid-air they are silent. But blind boys play a modified baseball, called when I was a boy "Three old cat." On the count of three the pitcher pitches, the striker strikes, and the catcher catches; but the

only one of the three who is really sure of accomplishing anything is the pitcher; and yet I have seen blind boys play this for hours together. The best ball here is one which will not roll or bat far, like an old slipper or a ball of rags. Football as they play it is rather more exciting. Alternate players of two sides of equal powers kick the ball back and forth until one side sends the ball across its opponents' goal line. The oval pig skin is the best kind of ball and when well blown up makes a noise as it bounces along. Our boys will play this game for a whole afternoon. I have played with them occasionally; but I had always to be matched by an opponent of equal sight.

An ingenious gymnasium game called the "Japanese Torpedo" had its origin here two years ago. It is the old game of whirling the captive football around under the feet of a ring of players. He who is hit is out. Instead of a football we use a little earth sewed up in emery cloth. Friction with the floor tells the ear when the ball is coming. Blind boys have as small practice in jumping as in running, so for them it is a splendid game.

A few of these games we shall play for you this afternoon. The senior boys care less for games than the others: they have some notions about such things which I fear I do not wholly understand. Perhaps they imagine that other big boys comport themselves in a more dignified way—carrying their hands in their pockets, for instance. When we moved out to Overbrook they had not learned to do this thing. At that time we had two new teachers who carried their hands thus. The seeing boys noted it and, passing the word along, the boys' school quickly took up the fashion and has persisted in the very nonchalant habit ever since.

This suggests the truism—as is the teacher so is the school. The gymnasium class is a remarkable illustration. Boys and girls can endure arithmetic even though they hate it; for is it not a necessary study? But as for exercising and playing in a gymnasium together with all the attendant bother of dressing and undressing and dressing again, only an inspiring teacher can make the thing popular. There is

little required school work equal to gymnastics, while it is unpopular to make pupils malingering and stretch the truth when desiring to be excused from it.

Our aim must be alike developmental and counteracting. Blind people are prone to exercise voluntarily by walking up and down, up and down, up and down within a given area. They thus develop their leg muscles. We must provide work for other muscles too. Therefore, the apparatus of our gymnasium appeals chiefly to back and arms. Unless we can develop the whole body, even the walking of our pupils will remain faulty. Every one has noticed that many of the blind droop the head forward. There are various reasons for this; the first and foremost being that they thus get their ears, their chief guiding sense, forward and so are better able to hear their own footfall and the resonance from it. Obviously most of our people lack the incentive we have to hold the head erect, which is to see better and farther, while some find the bright light painful to them. The shoemaker who cobbles our shoes declares they are worn just like other young people's; nevertheless, I find that our boys and girls while walking come down hard enough on the heels to make an appreciable sound: again the guiding sensation. Rubber heels, like a carpet of snow, blind them. They dislike to have seeing people about them wear rubber heels or rubber soles, and call those who do so "sneaks." Between forward head and backward heel the hips are apt to be carried forward; producing an awkward walking gait. To help correct this tendency and secure a springy carriage, the instructor exaggerates the importance of throwing the weight of the body forward over the ball of the foot and of drawing the chin in. To keep ordering blind pupils to hold up their heads accomplishes little; the heads soon fall forward again. The muscles at the back of the neck are either weak or relaxed. They must be strengthened and energized. We attack this problem both with head harness and otherwise; but we are fighting against nature and so succeed rather doubtfully. Another year we hope to have a swimming pool and so be able to

enlist the aid of an excellent exercise for strengthening shoulder muscles.

Running on the toes is a magnificent exercise to bring about an easy gait. As the blind, for obvious reasons, run little we have provided in the gymnasium a running track having the inner protective railing serve also as a hand guide. To preserve symmetry the running should be as many laps to the right as to the left. Roller skating is a more recreative aid to the same end and so also is round dancing. With not too many on the floor at once and all circling in a given direction there are few collisions. Our cement border is superior to bells in the corners, and, moreover, is always there. The blind will not play with abandon unless objects are where they expect to find them. "A place for everything and everything in its place" is a good motto for all of us.

You will recall the historian Prescott's dictum that the world of the blind man is limited by the horizon made with the reach of his arms, but that within this circle he is supreme. He is supreme there because touch is so very accurate and nice a sense. You may also recall Huxley's statement to the effect that the brain of man is not more superior to the brain of the highest anthropoid ape than is his hand to the hand of that animal. The hands of the blind man may become a mighty engine for his salvation. They may not inappropriately be called tentacles or feelers of the brain and, hence, organs of thought. Without hands the blind would be in a frightful condition; always and hopelessly dependent upon other people. But with strong, supple and serviceable hands and fingers, what a grasp they can still have on the material world! The blind Frenchman Lenôtre said in substance to the philosopher Diderot: Of what superior use are eyes? Give me arms long enough to reach the moon and I should be better off than you with your eyes and telescopes. "It would be better to perfect the organ which I have than to bestow on me that which I have not."

Obviously our schools educate the hands and the brain

through the hands. But in order to develop them into the most serviceable of tools we must not begin too early with them. We must develop first what G. Stanley Hall terms the "fundamental muscles," those that move the trunk and limbs, and then and only then is it time to insist upon the finer work of the "accessory muscles," those of the hands and fingers and the tongue. As in the kindergarten the plays and games of the children are of fundamental value and should precede the more delicately responsive kindergarten occupations, so even in the higher school the instructor who would avoid the disorders of the accessory system—nervous disorders—"must first lay stress upon the fundamental or basal movements."

Therefore it is that physical training is so essential to the blind; their bodily infirmities being due possibly to the results of general disease, usually to sedentary habits, always to excessive drain on such vital energy as they have, and frequently to habits of depression, what instrumentality can we find equal to physical training to "shake off dull sloth," rouse the body, force the blood to heart and lungs and make these vital organs function properly and so energize the whole man? To sit around, as many of them do, is depressing in the extreme. Even "our moral health and energy is commonly the result of our physical health and strength, and our moral failings are nothing more than bodily defects." "Chronic bodily disorders cast a gloom over the brightest prospects; while the vivacity of strong health gilds every misfortune."

Apropos of physical efficiency G. Stanley Hall says in his splendid chapter in "Adolescence" on "Growth of Motor Power and Function," "Skill, endurance, and perseverance may almost be called muscular virtues, and fatigue . . . *ennui*, restlessness, lack of control and poise, muscular faults," * and "While to be weak is miserable, to feel strong is a joy and glory. It gives a sense of superiority, dignity, endurance, courage, confidence, enterprise, power, personal validity, virility, and virtue." †

* P. 132.

† P. 205.

